

ABSTRACT OF THE DISCLOSURE

The method of the present invention enhances the adhesive strength of a polymer electrolyte film via an adhesive and thereby manufactures a fuel cell having the high reliability for the gas sealing property. The method exposes a joint body, which has been prepared by interposing a polymer electrolyte film between an anode and a cathode and bonding them, to an atmosphere having a temperature of 25°C and a humidity of 50% over one hour (S110). The method then provides a pair of separators and applies an adhesive on specific areas of the separators, which are directly joined with the polymer electrolyte film (S120). The adhesive used here is a modified rubber adhesive that is a mixture of epoxy resin and modified silicone and has a modulus of elasticity of not greater than 10 MPa and a durometer A hardness of not greater than 90 after cure. The method subsequently lays the pair of separators upon the joint body and cures the adhesive for bonding the separators directly to the polymer electrolyte film (S130 and S140). The process of step S110 causes the polymer electrolyte film to have a water content λ of not greater than 4. This effectively ensures the sufficient adhesive strength of the polymer electrolyte film via the adhesive.

Express Mail EL 03982 0032 US.